

GHS Classification

ID336

CAS 120068-37-3

Physical Hazards

5-Amino-1-[2,6-dichloro-4-(trifluoromethyl)phenyl]-3-cyano-4-[(trifluoromethyl)sulfinyl]pyrazole; Fipronil

Date Classified: Nov. 20, 2006 (Environmental Hazards: Mar. 31, 2006)

Reference Manual: GHS Classification Manual (Feb. 10, 2006)

Hazard class	Classification	symbol	signal word	hazard statement	Rational for the classification
1 Explosives	Not applicable	—	—	—	Containing no chemical groups with explosive properties
2 Flammable gases	Not applicable	—	—	—	Classified as "solid" according to GHS definition
3 Flammable aerosols	Not applicable	—	—	—	Not aerosol products
4 Oxidizing gases	Not applicable	—	—	—	Classified as "solid" according to GHS definition
5 Gases under pressure	Not applicable	—	—	—	Classified as "solid" according to GHS definition
6 Flammable liquids	Not applicable	—	—	—	Classified as "solid" according to GHS definition
7 Flammable solids	Classification not possible	—	—	—	No data available
8 Self-reactive substances and mixtures	Classification not possible	—	—	—	Classification not possible due to lack of data, though being sulfonyls, containing chemical groups with self-reactive properties.
9 Pyrophoric liquids	Not applicable	—	—	—	Classified as "solid" according to GHS definition
10 Pyrophoric solids	Classification not possible	—	—	—	No data available
11 Self-heating substances and mixtures	Classification not possible	—	—	—	No data available
12 Substances and mixtures, which in contact with water, emit flammable gases	Not applicable	—	—	—	Containing no metals or metalloids (B, Si, P, Ge, As, Se, Sn, Sb, Te, Bi, Po, At)
13 Oxidizing liquids	Not applicable	—	—	—	Classified as "solid" according to GHS definition
14 Oxidizing solids	Classification not possible	—	—	—	Classification not possible due to lack of data, though being organic compounds containing oxygen (but not chlorine and fluorine) bound to the elements other than carbon and hydrogen
15 Organic peroxides	Not applicable	—	—	—	Organic compounds containing no "—O—O—" structure
16 Corrosive to metals	Classification not possible	—	—	—	Test methods applicable to solid substances with melting point of >55degC are not available (melting point: 202.7–203.0degC (Agricultural Chemical Registration Data (2001)))

Health Hazards

Hazard class	Classification	symbol	signal word	hazard statement	Rational for the classification
1 Acute toxicity (oral)	Category 3	Skull and crossbones	Danger	Toxic if swallowed	Based on the rat LD50 (oral route) value of 97mg/kg (Agricultural Chemical Registration Data (1995)).
1 Acute toxicity (dermal)	Not classified	—	—	—	Based on the absence of mortality at the highest dose of 2,000mg/kg observed in the dermal studies with rats (Agricultural Chemical Registration Data (1995)).
1 Acute toxicity (inhalation: gas)	Not applicable	—	—	—	Due to the fact that the substance is a solid according to the GHS definition and inhalation of its gas is not expected.
1 Acute toxicity (inhalation: dust, mist)	Classification not possible	—	—	—	No data available
1 Acute toxicity (inhalation: dust, mist)	Category 3	Skull and crossbones	Danger	Toxic if inhaled	Based on the rat LC50 (inhalation route) value of 0.68mg/L (Agricultural Chemical Registration Data (1995)).
2 Skin corrosion / irritation	Not classified	—	—	—	Based on no evidence of irritation observed in rabbit skin irritation tests, reported in Agricultural Chemical Registration Data (1995).
3 Serious eye damage / eye irritation	Not classified	—	—	—	In rabbit eye irritation tests, mild conjunctival redness was noted with a mean Draize score of 0.44. The reactions resolved by Day 3 (Agricultural Chemical Registration Data (1995)). The substance is thus considered non-irritating.
4 Respiratory/skin sensitization	Respiratory sensitization: Classification not possible Skin sensitization: Classification not possible	(Respiratory sensitization) — (Skin sensitization) —	(Respiratory sensitization) — (Skin sensitization) —	(Respiratory sensitization) — (Skin sensitization) —	Respiratory sensitization: No data available Skin sensitization: Two sensitization studies in guinea pigs using the Maximization method yielded inconsistent results (positive rates of 20% and 0%) (Agricultural Chemical Registration Data (1995, 1996)), which do not allow the presence or absence of sensitization to be determined.
5 Germ cell mutagenicity	Not classified	—	—	—	Based on negative data on in vitro reverse mutagenicity tests and chromosome aberration tests, and in vivo micronucleus tests on mouse bone marrow cells (Agricultural Chemical Registration Data (1995)).
6 Carcinogenicity	Not classified	—	—	—	There was no treatment-related increase in tumor incidence observed in mouse and rat carcinogenicity studies (Agricultural Chemical Registration Data (1995)).
7 Toxic to reproduction	Category 2	Health hazard	Warning	Suspected of damaging fertility or the unborn child	Based on the evidence of reduced mating frequency (F1) and reduced numbers of litters/live births at doses causing reduced body weight gains, observed in rat 2-generation reproduction studies (Agricultural Chemical Registration Data (1995)). Since it cannot be clearly demonstrated that these findings of reproductive effects are secondary, the substance is classified into Category 2 from the viewpoint of safety.
8 Specific target organs/systemic toxicity following single exposure	Category 1 (nervous system)	Health hazard	Danger	Causes damage to organs (nervous system)	In rat single dose toxicity studies, clinical signs and symptoms including clonic convulsions, piloerection, abnormal gait, diarrhea, decreased respiration rate, lethargy, coma, tremors and reduced locomotor activity were reported (Agricultural Chemical Registration Data (1995)). These effects were observed at dosing levels within the guidance value ranges for Category 1.

9	Specific target organs/systemic toxicity following repeated exposure	Category 1 (nervous system), Category 2 (thyroid gland, liver)	Health hazard	Danger	Causes damage to organs through prolonged or repeated exposure (nervous system) May cause damage to organs through prolonged or repeated exposure (thyroid gland).	In rat repeated dose toxicity studies, clinical signs and symptoms including increased absolute/relative weights of the liver and thyroid gland, tendency of the increased incidence of hypertrophy/hyperplasia in thyroid gland cystic epithelial cells, and increased panlobular lipogenesis (males) were found. In dogs, evidence of reduced activity, tremors, convulsions and muscular fasciculations was reported (Agricultural Chemical Registration Data (1995)). These effects were observed at dosing levels within the guidance value ranges for Category 1 (nervous system) and Category 2 (liver and thyroid gland).
10	Aspiration hazard	Classification not possible	—	—	—	No data available

Environmental Hazards

Hazard class	Classification	symbol	signal word	hazard statement	Rational for the classification
11 Hazardous to the aquatic environment (acute)	Category 1	Environment	Warning	Very toxic to aquatic life	It was classified into Category 1 from ErC50=0.074mg/L of the algae (Green Algae) (Agricultural Chemical Registration Data, 1995).
11 Hazardous to the aquatic environment (chronic)	Category 1	Environment	Warning	Very toxic to aquatic life with long lasting effects	Since acute toxicity was Category 1 and there was no rapidly degrading (BIOWIN), and since there was bio-accumulation (log Kow=4 (PHYSPROP Database, 2005)), it was classified into Category 1.